markedly increased by raising the B/S value to 0.06 cm^{-1} or greater (as opposed to about 0.05 cm^{-1} in a conventional type of the nuclear reactor). Excess reactivity can therefore be adequately reduced even in nuclear reactors in which substantial excess reactivity is required, such as when an attempt is made to markedly extend the operating period (for example, to allow a reactor to continuously operate for 15 years and longer).

B1 Cancel

Page 9, please replace the second full paragraph with:

Placing thorium in peripheral portions of each fuel assembly allows reactions in which the thorium absorbs neutrons and converts to uranium 233. Reactivity can thus be reduced at the beginning of the cycle and increased in the second half thereof, making it possible to reduce the extent to which reactivity is adjusted by the burnable poison. As a result, more nuclear fuel material can be loaded by reducing the amount of gadolinia, and corrosion can be reduced because a lower burnup can be achieved while the amount in which energy is generated can remain the same.

B2

Page 15, please replace the third paragraph with:

As can be seen in Fig. 2, in the present embodiment, the area of the reactor pressure vessel 201 underneath the core 202 does not contain nozzles or other line connection components. The main lines connected to the reactor pressure vessel 201 include the main steam pipes 215, water supply lines 216, emergency core cooling lines 217, and the like, all of which are disposed above the reactor core 202. In Fig. 2, a steam separator 209 is disposed upper the control rod drive housing 208, and a steam dryer 210 is disposed above the steam separators 209.

B3

In the Claims:

In accordance with 37 CFR § 1.121, please substitute for original claims 1, 6, and 13 the following rewritten versions of the same claims, as amended. The changes are shown explicitly in the attached "Marked Up Version Showing Changes Made."